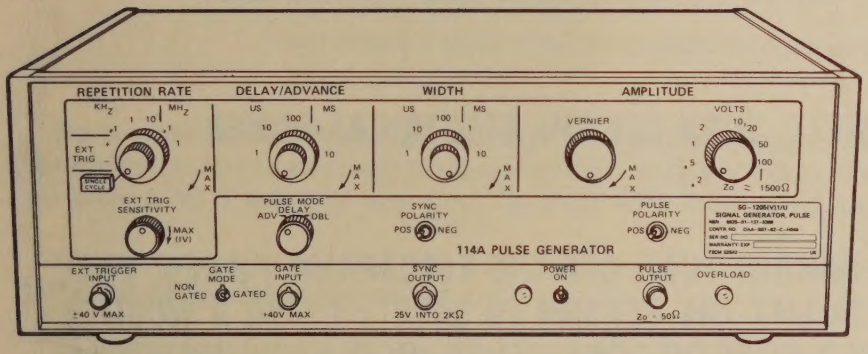
TM 11-6625-3050-12

TECHNICAL MANUAL

OPERATOR'S AND ORGANIZATIONAL MAINTENANCE



PULSE SIGNAL GENERATOR SG-1205(V)1/U (NSN 6625-01-137-5369)

EQUIPMENT DESCRIPTION PAGE 1-2

OPERATOR'S CONTROLS PAGE 2-1

OPERATOR PMCS PAGE 2-5

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HEADQUARTERS, DEPARTMENT OF THE ARMY

5 DECEMBER 1983

5 SAFETY STEPS TO FOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK

1. DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL
2. IF POSSIBLE, TURN OFF THE ELECTRICAL POWER
3. IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH, OR LIFT THE PERSON TO SAFETY USING A WOODEN POLE OR A ROPE OR SOME OTHER INSULATING MATERIAL
4. SEND FOR HELP AS SOON AS POSSIBLE
5. AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION

WARNING

HIGH VOLTAGE

is used in the operation of this equipment

DEATH ON CONTACT

may result if personnel fail to observe safety precautions

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When the technician is aided by operators, he must warn them about dangerous areas.

Be careful not to contact high-voltage connections of 115-volt ac input connections when installing or operating this equipment.

Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through vital organs of the body.

WARNING

Do not be misled by the term "low voltage". Potentials as low as 50 volts may cause death under adverse conditions.

For Artificial Respiration, refer to FM 21-11.

WARNING

POISONOUS FUMES

Fumes of ISOPROPYL ALCOHOL are poisonous. Provide thorough ventilation whenever used; do not breathe the fumes. Do not use near open flame or hot surface.

TECHNICAL MANUAL

NO. 11-6625-3050-12

HEADQUARTERS
DEPARTMENT OF THE ARMY
Washington, DC, 5 December 1983

Operator's and Organizational Maintenance Manual
PULSE SIGNAL GENERATOR SG-1205(V)1/U
(NSN 6625-01-137-5369)

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. In either case, a reply will be furnished direct to you.

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HOW TO USE THIS MANUAL

pend a few minutes looking through this manual. It has a new look that is very different from the nanuals you've been using. You'll find the new look is a lot easier to use, and you can find what ou're looking for a lot faster. We got rid of as many words as we could and put in lots of pictures to how just about everything you'll be doing to operate and maintain your equipment. So HOW DO OU USE THIS MANUAL?

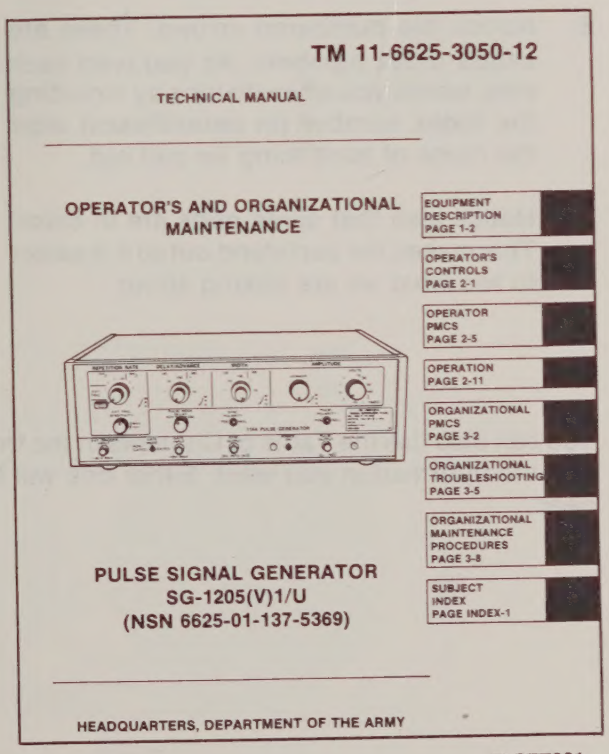
ike This:

1. Suppose you want to operate the signal generator.

2. Look at the cover and you'll see index boxes near the right-hand edge with subject titles next to them. You'll find "OPERATION PAGE 2-11." You can skip over to page 2-11.

OR

3. Bend the pages a bit and look at the edges. You'll see black bars on some of the pages that are lined up with the index boxes on the cover.



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4. If you put your thumbnail on the black bar that is lined up with the box on cover for OPERATION and open the manual, you'll be on page 2-11.

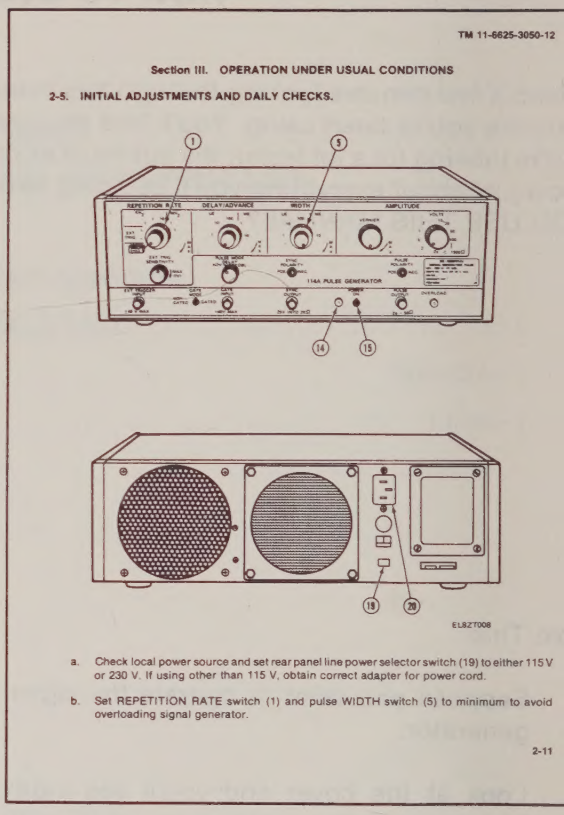
5. On page 2-11, you'll find Operation Under Usual Conditions. Now you're ready to begin.

6. Look at the procedures.

7. Each procedure has one or more steps with a picture to show you where to look and what to look at.

8. Notice the numbered arrows. These are called index numbers. As you read each step, we tell you where to look by including the index number (in parentheses) after the name of each thing we call out.

9. Notice also that some parts are in color. This makes the part stand out so it is easier to see what we are talking about.


TM 11-6625-3050-12
Section III. OPERATION UNDER USUAL CONDITIONS
2-5. INITIAL ADJUSTMENTS AND DAILY CHECKS.
1
5
REPETITION RATE
DELAY/ADVANCE
WIDTH
AMPLITUDE
114A PULSE GENERATOR
14
15
19
20
EL8ZT008
a. Check local power source and set rear panel line power selector switch (19) to either 115 V or 230 V. If using other than 115 V, obtain correct adapter for power cord.
b. Set REPETITION RATE switch (1) and pulse WIDTH switch (5) to minimum to avoid overloading signal generator.
2-11

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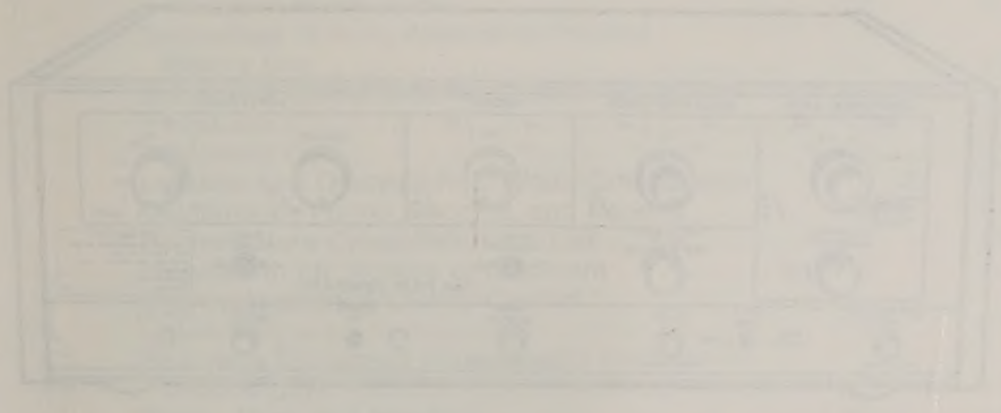
You can also use the Table of Contents in the front of the manual or the Subject Index in the back t find the information you want. Either one will lead you to the page number of the procedure yo need.



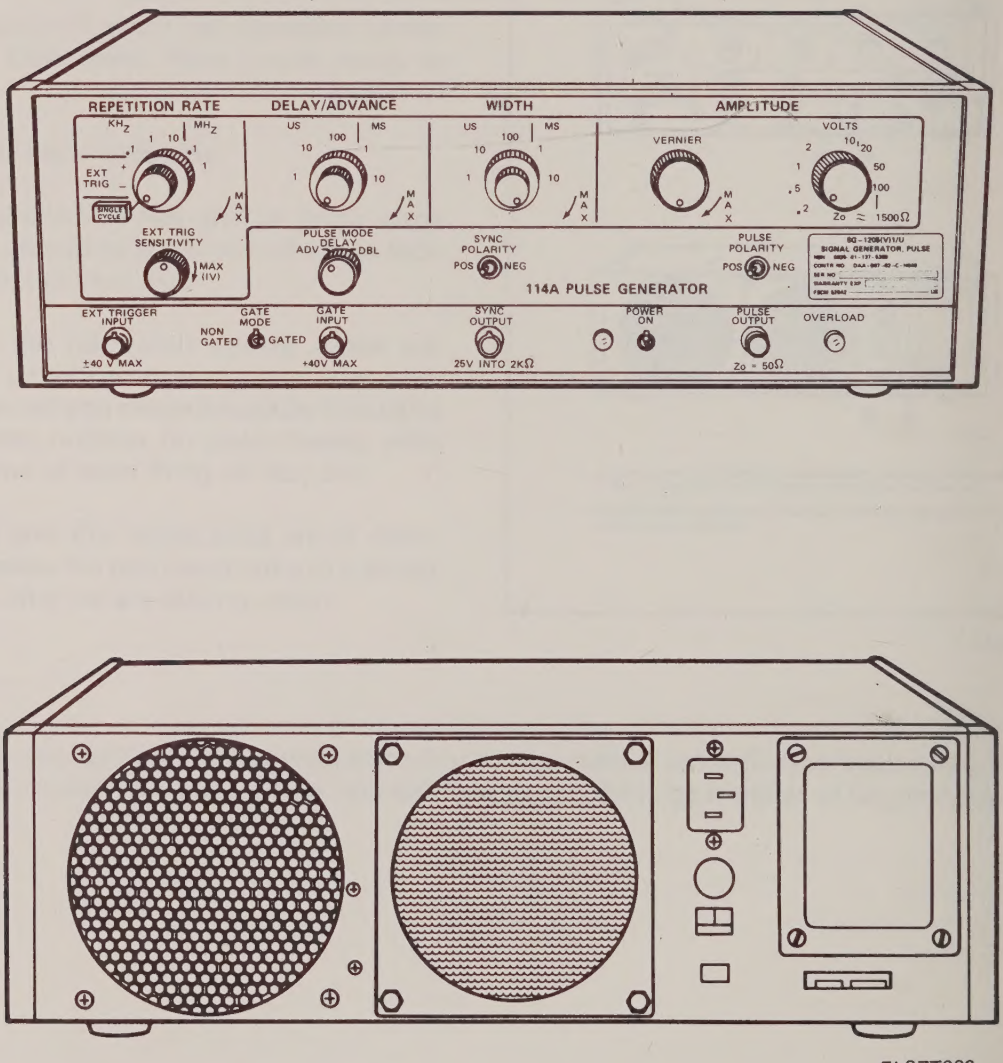


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Figure 1-1. Pulse Signal Generator SG-1205(V)1/U

CHAPTER 1

INTRODUCTION

	Para	Page
Consolidated Index of Army Publications and Blank Forms	1-2	1-1
Destruction of Army Materiel to Prevent Enemy Use	1-4	1-2
Equipment Characteristics, Capabilities, and Features	1-10	1-2
Equipment Data	1-12	1-4
Location and Description of Major Components	1-11	1-3
Maintenance Forms, Records, and Reports	1-3	1-1
Nomenclature Cross-Reference List	1-9	1-2
Preparation for Storage or Shipment	1-5	1-2
Quality Assurance/Quality Control (QA/QC)	1-6	1-2
Reporting Equipment Improvement Recommendations (EIR)	1-7	1-2
Safety, Care, and Handling	1-13	1-5
Scope	1-1	1-1
Technicial Principles of Operation		1-5
Warranty Information	1-8	1-2

Section I. GENERAL INFORMATION

1-1. SCOPE.

This manual contains operation and maintenance instructions for Pulse Signal Generator SG-1205(V)1/U. This manual includes procedures for operation, cleaning, inspection, testing, servicing, disassembly, and assembly of the equipment as authorized for operator and organizational maintenance.

1-2. CONSOLIDATED INDEX OF ARMY PUBLICATIONS AND BLANK FORMS.

Refer to the latest issue of DA Pam 310-1 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

1-3. MAINTENANCE FORMS, RECORDS, AND REPORTS.

a. Reports of Maintenance and Unsatisfactory Equipment. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by TM 38-750, The Army Maintenance Management System (Army).

b. Report of Packaging and Handling Deficiencies. Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735-11-2/DLAR 4140.55/NAVMATINST 4355.73A/AFR 400-54/MCO 4430.3F.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

1-4. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE.

Destruction of Army materiel to prevent enemy use is described in TM 750-244-2.

1-5. PREPARATION FOR STORAGE OR SHIPMENT.

Preparation instructions for storage and shipment are found in Chapter 3, section VI.

1-6. QUALITY ASSURANCE/QUALITY CONTROL (QA/QC).

Maintenance standards for Pulse Signal Generator SG-1205(V)1/U are given in the operator preventive maintenance section and the organizational maintenance chapter of this manual. By performing PMCS and the maintenance procedures, quality control of the equipment will be maintained.

1-7. REPORTING EQUIPMENT iMPROVEMENT RECOMMENDATIONS (EIR).

If your signal generator needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF 368 (Quality Deficiency Report). Mail it to us at: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: DRSEL-ME-MP, Fort Monmouth, New Jersey 07703. We'll send you a reply.

1-8. WARRANTY INFORMATION.

The signal generator is warranted by Systron Donner Corporation for 12 months. Warranty starts on the date of shipment to the original buyer. Report all defects in material or workmanship to your supervisor who will take appropriate action.

1-9. NOMENCLATURE CROSS-REFERENCE LIST.

Common names will be used when major components of the signal generator are mentioned in this manual.

NOTE

Official nomenclature must be used when filling out report forms or looking up Technical Manuals.

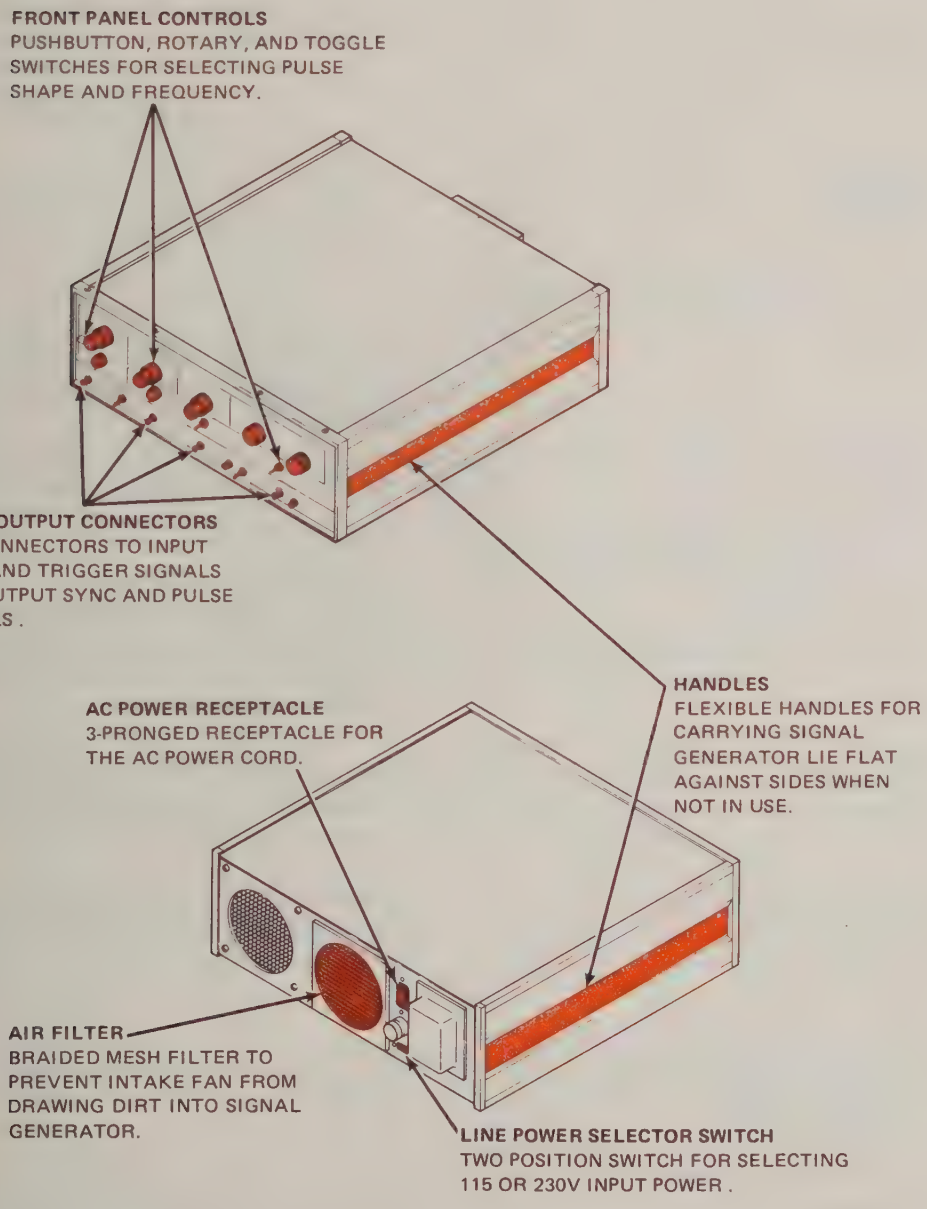
Common Name	Official Nomenclature
signal generator	Pulse Signal Generator SG-1205(V)1/U

Section II. EQUIPMENT DESCRIPTION

1-10. EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.

- Provides high power 1-MHz signal generation.
- Pulse duration specified down to 50 ns, allowing for low duty cycle applications.
- Pulse repetition rate, delay/advance, width, and amplitude are all front panel selectable

11. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.


FRONT PANEL CONTROLS
PUSHBUTTON, ROTARY, AND TOGGLE SWITCHES FOR SELECTING PULSE SHAPE AND FREQUENCY.
INPUT/OUTPUT CONNECTORS
BNC CONNECTORS TO INPUT GATE AND TRIGGER SIGNALS AND OUTPUT SYNC AND PULSE SIGNALS .
HANDLES
FLEXIBLE HANDLES FOR CARRYING SIGNAL GENERATOR LIE FLAT AGAINST SIDES WHEN NOT IN USE.
AC POWER RECEPTACLE
3-PRONGED RECEPTACLE FOR THE AC POWER CORD.
AIR FILTER
BRAIDED MESH FILTER TO PREVENT INTAKE FAN FROM DRAWING DIRT INTO SIGNAL GENERATOR.
LINE POWER SELECTOR SWITCH
TWO POSITION SWITCH FOR SELECTING 115 OR 230V INPUT POWER .
EL8ZT004

1-12. EQUIPMENT DATA.

WEIGHT AND DIMENSIONS

Weight:	
Net:	25 lb (11.4 kg)
Shipping:	28 lb (12.7 kg)
Dimensions:	
Height:	5.25 in. (13.33 cm)
Width:	16.75 in. (42.54 cm)
Depth:	17.00 in. (43.18 cm)

OPERATING CHARACTERISTICS

Power:	100 to 125/200 to 250 V ac, 50 to 60 Hz, ≈ 250 W Selectable by rear panel switch and multita transformer.
Operating Temperature:	32° to 122° F (0° to 50° C)

PERFORMANCE CHARACTERISTICS

Repetition Rate:	10 Hz to 1 MHz, continuously variable. sw selected in five ranges with overlapping verr control. (Maximum rate for double puls generation is 500 kHz).
Output Pulse Amplitude:	80 mV to 100 V (into 50Ω) continuously variabl switch selected in nine ranges with overlappir vernier control.
Transition Times:	Fixed ≤13 ns for amplitude of up to 50 V, ≤17 r for amplitude from 50 to 100 V.
Jitter:	
Repetition rate:	0.5%
Delay/advance:	0.1%
Duration jitter:	0.1%
Pulse Duration (Width):	50 ns to 10 ms, continuously variable; swi selected in five ranges with overlapping ver control.
Duty Factor:	Maximum duty factor (cycle) is 50% for amp tudes of up to 20 V and 10% for amplitudes fr 20 to 100 V.

Aberrations (at maximum vernier):

Ringing:	6%
Overshoot:	6%
Preshoot:	6%
Droop:	6%
Fourth Corner Overshoot, 100-V Range:	<8%

Sync Output Pulse:

Amplitude:	≈25 V into 2 kΩ (polarity selectable)
Duration:	≈100 ns
Transition Time:	
Rise:	<50 ns
Fall:	<300 ns

1-13. SAFETY, CARE, AND HANDLING.

Observe all WARNINGS, CAUTIONS, and NOTES in this manual. This equipment can be extremely dangerous if these instructions are not followed.

Section III. TECHNICAL PRINCIPLES OF OPERATION

Pulse Signal Generator SG-1205(V)1/U (see figure 1-2) produces high power 10-Hz to 1-MHz output pulses. A second synchronizing (sync) pulse is also provided.

(1) The front panel contains all the controls for selecting output pulse parameters. It also contains two indicators to show power on and overload conditions. Two input connectors are provided, one for an external trigger signal and one for a gate signal. Two output connectors provide the main output pulses and the sync pulses.

(2) The internal circuitry generates the main output pulses and the sync pulses. The settings of the front panel controls determine the amplitude, width, polarity, and other parameters of the pulses. An internal power supply provides all the voltages needed by the other internal circuits.

(3) The rear panel contains the input connector for input power, a fuse, and a switch for selecting 115- or 230-V ac input power. A fan is also provided for cooling the internal circuitry.

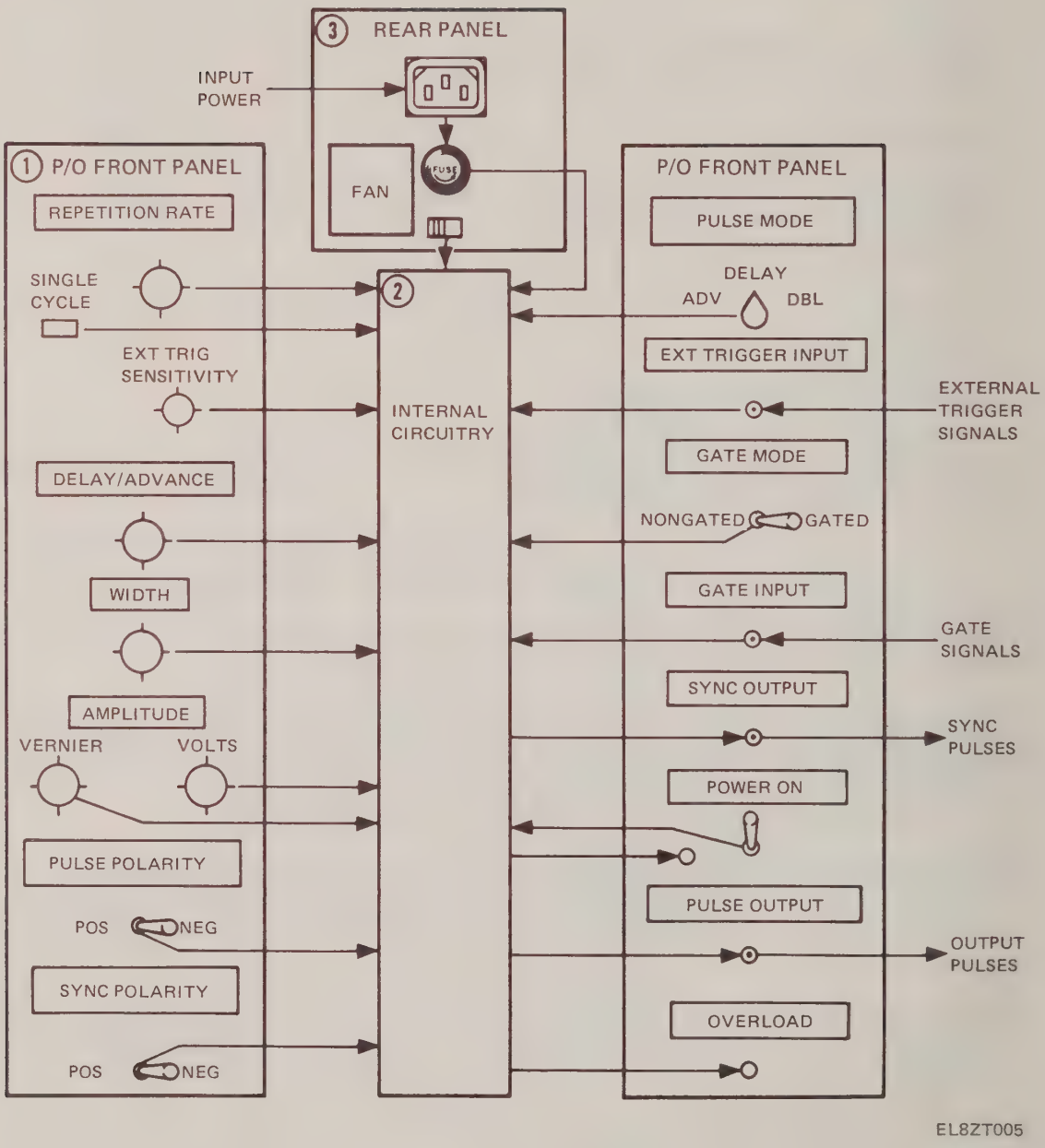


Figure 1-2. Pulse Signal Generator SG-1205(V)1/U Block Diagram

CHAPTER 2

OPERATING INSTRUCTIONS

	Para	Page
Controls and Indicators	2-2	2-1
Initial Adjustments and Daily Checks	2-5	2-11
Operating Procedures (Usual Conditions)	2-6	2-12
Operation in Dusty or Sandy Areas	2-8	2-17
Operation in Extreme Heat	2-7	2-17
Operation in Rainy or Humid Conditions	2-9	2-17
PMCS Procedures	2-4	2-5
Preventive Maintenance Table		2-9

Section I. DESCRIPTION AND USE OF OPERATOR'S CONTROLS AND INDICATORS

1. GENERAL.

fore trying to operate the equipment, be sure you know where all controls and indicators are cated, what each does, and what information each indicator is giving.

2. CONTROLS AND INDICATORS.

perator's controls and indicators of the signal generator are shown in figure 2-1 and described in ble 2-1.

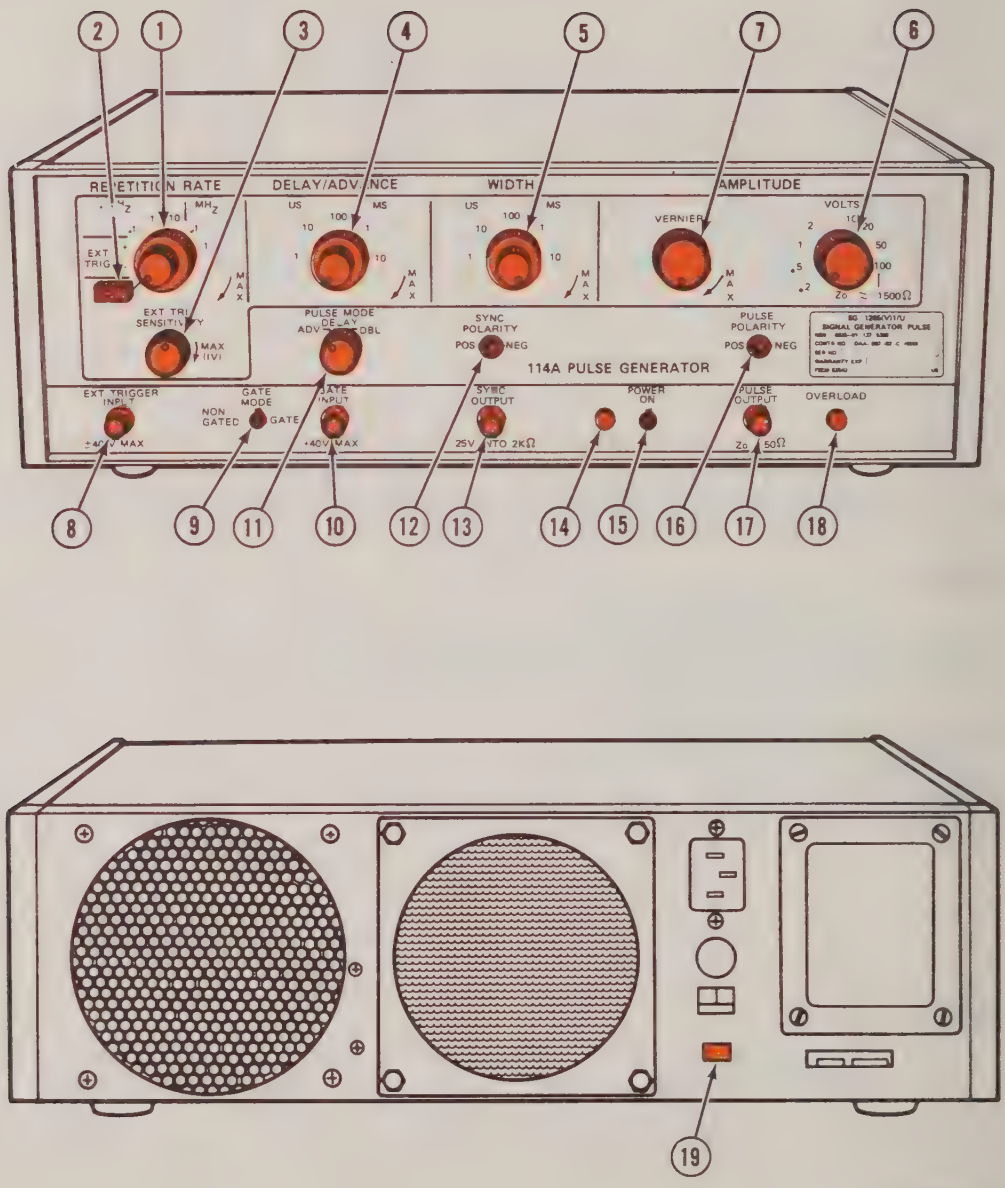


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Figure 2-1. Operator's Controls and Indicators

Table 2-1. OPERATOR'S CONTROLS AND INDICATORS

Key	Control or Indicator	Function
1	REPETITION RATE selector switch and vernier control KHz .1 1 10 MHz .1 1 EXT TRIG + - SINGLE CYCLE	Selects one of five repetition rate ranges or either (+) or (-) external trigger or single cycle modes of operation. Vernier control provides continuously variable control of repetition rate range selected.
2	SINGLE CYCLE pushbutton switch	Triggers pulse circuits for a 1-cycle pulse output each time the pushbutton switch is pressed when the REPETITION RATE selector switch is placed in SINGLE CYCLE position.
3	EXT TRIG SENSITIVITY control potentiometer	Adjusts trigger level of external applied trigger pulse from ±0.5 to about ±6 V. Safe up to ±40 V.
4	DELAY/ADVANCE selector switch and vernier control US 1 10 100 MS 1 10	Selects DELAY or ADVANCE range in five steps from 0 to 10 ms. Vernier control provides continuously variable control of range selected.
5	WIDTH selector switch and vernier control US 1 10 100 MS 1 10	Selects duration range in five steps from 50 ns to 10 ms. Vernier control provides continuously variable control of duration range selected.

Table 2-1. OPERATOR'S CONTROLS AND INDICATORS - Continued

Key	Control or Indicator	Function
6	AMPLITUDE VOLTS selector switch .2 .5 1 2 5 10 20 50 100	Selects amplitude of output pulse in nine ranges from 80 mV to 100 V into 50 ohms.
7	AMPLITUDE VERNIER control	Provides continuously variable control of amplitude range selected.
8	EXT TRIGGER INPUT ±40 V MAX connector	BNC connector for input of an external trigger.
9	GATE MODE toggle switch NON GATED GATED	Selects gating mode when placed in GATED position. When placed in NON GATED position, disables gating operation.
10	GATE INPUT +40 V MAX connector	BNC connector for input of a gating signal. Amplitude 8 V to 40 V.
11	PULSE MODE selector switch ADV DELAY DBL	Selects pulse mode of operation. ADV position allows output pulse to occur ahead of sync pulse by a period set by DELAY/ ADVANCE controls. DELAY position allows output pulse to occur after sync pulse by a period of time set by DELAY/ ADVANCE controls. When placed in DBL position, a pulse pair is generated for each repetition rate period. Separation of the pulse pair is determined by setting the DELAY/ ADVANCE controls.
12	SYNC POLARITY toggle switch POS NEG	Selects polarity of sync pulse output.
13	SYNC OUTPUT 25 V INTO 2 kΩ connector	BNC connector provides sync pulse output.
14	Power indicator	Lights when ac power is applied.

Table 2-1. OPERATOR'S CONTROLS AND INDICATORS - Continued

Key	Control or Indicator	Function
15	POWER toggle switch ON	Applies ac power to the transformer primary and blower motor.
16	PULSE POLARITY toggle switch POS NEG	Selects polarity of main pulse output.
17	PULSE OUTPUT Z.=50Ω connector	BNC connector provides main pulse output.
18	OVERLOAD indicator	Lights when duty cycle exceeds 50% for amplitudes <20 V and 10% for amplitudes from 20 V to 100 V.
19	Line power selector	Selects power transformer primary configuration for either 115 or 230 V.

Section II. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-3. GENERAL.

Operator's Preventive Maintenance Checks and Services (PMCS) is the required daily and weekly inspection and care of your equipment necessary to keep it in good operating condition.

2-4. PMCS PROCEDURES.

a. Tools, Materials, and Equipment Required for Preventive Maintenance. No tools or equipment are required for operator preventive maintenance. The following cleaning materials will be useful to the operator:

- Lint-free cloths.
- Dishwashing compound or detergent.

b. Routine Checks and Services. Routine checks and services are not listed in the PMCS table. They are things that you should do any time you see they must be done. If you find a routine check or service in your PMCS table, it was listed because other operators reported problems with this item. Do the following routine checks and services as necessary:

- Clean
- Dust
- Check for cut or frayed cables
- Check for dented, bent, or broken components
- Check for rusting
- Check controls for smooth operation
- Cover unused receptacles
- Check for loose nuts, bolts, and connectors
- Check for completeness of equipment
- Check for completeness and current changes to publications

c. Preventive Maintenance Checks and Services. (See table 2-2.)

(1) Do your Before (B) preventive maintenance just before you operate your equipment. Pay attention to the CAUTIONS and WARNINGS.

(2) Do your During (D) preventive maintenance while the equipment is in operation.

(3) Do your After (A) preventive maintenance right after operating the equipment. Pay attention to the CAUTIONS and WARNINGS.

(4) If something doesn't work, troubleshoot it with the instructions in this manual and notify your supervisor.

(5) Always do your preventive maintenance in the same order until it gets to be a habit. Once you've had some practice, you'll spot anything wrong in a hurry.

(6) If anything looks wrong and you can't fix it, write it on your DA Form 2404. If you find something seriously wrong, report it to organizational maintenance RIGHT NOW.

d. Explanation of Columns. Following is an explanation of the columns of table 2-2.

(1) Item no. This column contains a number for each procedure to be performed. When reporting malfunctions or failures on DA Form 2404, Equipment Inspection and Maintenance Worksheet (figure 2-2), place this number in the TM Item No. column.

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

For use of this form, see TM 38-750; the proponent agency is the Office of the Deputy Chief of Staff for Logistics.

1. ORGANIZATION					2. NOMENCLATURE AND MODEL	
3. REGISTRATION/SERIAL/FSN	4a. MILES	b. HOURS	c. ROUNDS FIRED	d. HOT STARTS	5. DATE	6. TYPE INSPECTION

7. APPLICABLE REFERENCE			
TM NUMBER	TM DATE	TM NUMBER	TM DATE

INSTRUCTIONS - Perform each check listed in the TM applicable to the inspection performed. Following the sequence listed in pertinent TM, complete form as follows:

COLUMN a - Enter TM item number.

COLUMN b - Enter the applicable condition status symbol.

COLUMN c - Enter deficiencies and shortcomings.

COLUMN d - Show corrective action for deficiency or shortcoming listed in Column c.

COLUMN e - Individual ascertaining completed corrective action initial in this column.

ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.

8a. SIGNATURE (*Person(s) performing inspection*)	8b. TIME	9a. SIGNATURE (*Maintenance Supervisor*)	9b. TIME	10. MANHOURS REQUIRED

TM ITEM NO. a	STATUS b	DEFICIENCIES AND SHORTCOMINGS c	CORRECTIVE ACTION d	INITIAL WHEN CORRECTED e

USE PMCS ITEM NO

EL8ZT007

Figure 2-2. DA Form 2404

(2) Interval. These columns tell you when to do a procedure. Each column that applies will contain a dot (•). Some procedures will have dots in more than one column.

NOTE

All PMCS must be done as regularly scheduled and also under the following conditions:

- Before the equipment is used on a mission
- When the equipment is first installed
- When the equipment is reinstalled after being removed for any reason.

(3) Item to be inspected/procedure. This column contains the name of the item to be inspected and tells how to perform the required checks and services on it. Carefully follow these instructions and perform them in the order listed.

(4) Equipment is not ready/available if:. This column tells you:

- Why your equipment cannot be used
- Why there is a problem with any item that was inspected
- What the problem is with the procedure.

Table 2-2. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

NOTE

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shut down.

These checks are to be made in the order listed, within the designated interval.

B-Before operation D-During operation A-After operation

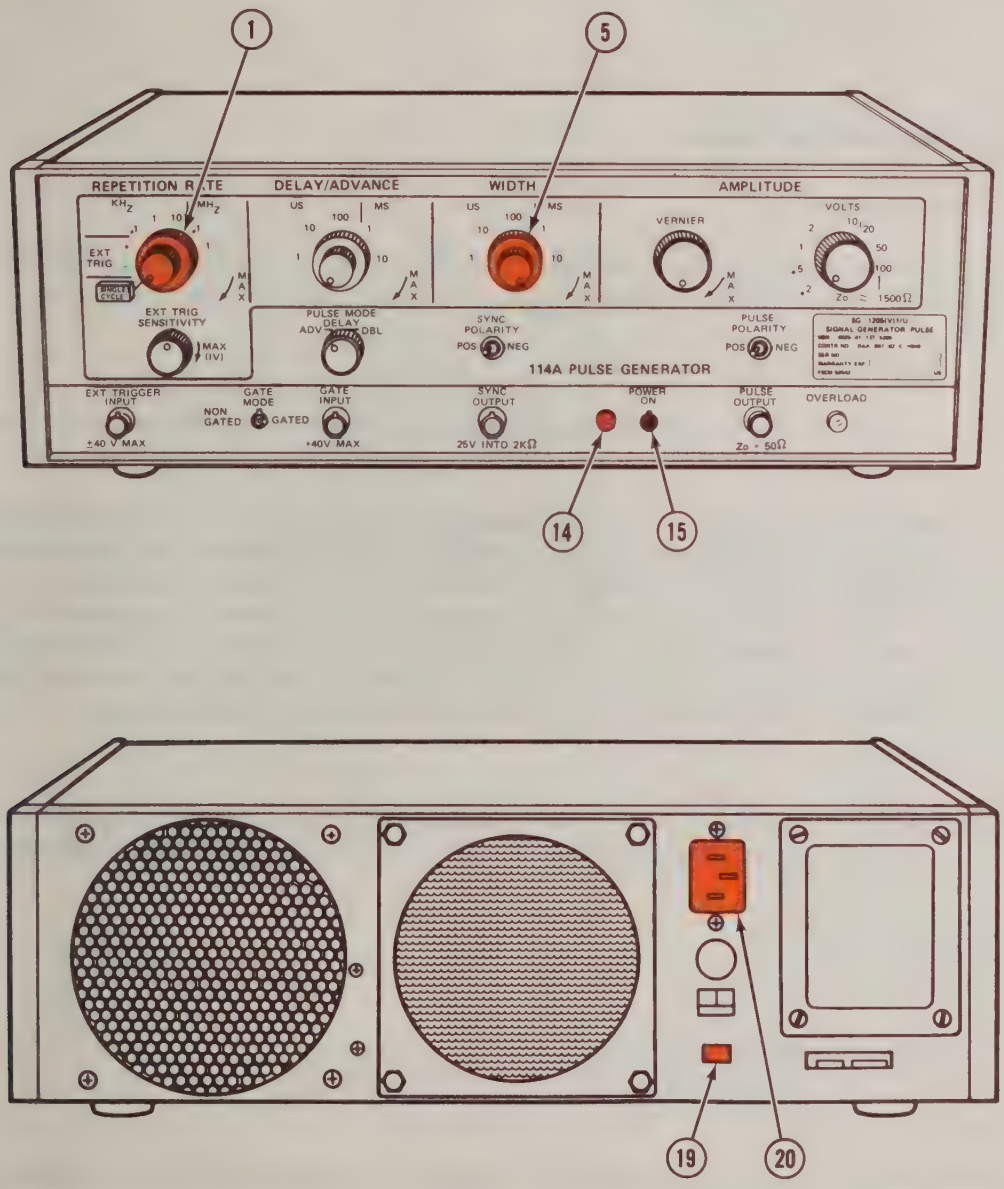
Item No.	Interval			Item to be Inspected Procedure	Equipment is Not Ready/ Available if:
	B	D	A		
1				Front Panel Controls	
	•			a. Check that knobs are not cracked or broken.	Knobs are broken or missing.
	•			b. Check that switches are not loose.	
	•			c. Check that switches turn easily and are alined with front panel markings.	Switches stick, bind, or cannot be alined with panel markings.
2				Front Panel Connectors	
	•			a. Check that connectors are not tarnished or dirty.	
	•			b. Check that connectors are not bent or loose.	Connectors are broken or cannot be used.
3				Front Panel	
	•			a. Check that front panel markings are complete and readable.	
		•		b. Check that power indicator is lit when POWER switch is set to ON.	
		•		c. Check that OVERLOAD indicator does not flash or remain lit after POWER switch is set to ON.	OVERLOAD indicator flashes or remains lit.

Table 2-2. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

Item No.	Interval			Item to be Inspected Procedure	Equipment is Not Ready/ Available if:
	B	D	A		
4				Chassis	
	•			a. Check that top and bottom covers are secure and in place.	Top or bottom cover is not in place.
	•			b. Check that handles are secure and are not broken.	
	•			c. Check that chassis feet are not missing or broken.	
	•		•	d. Check chassis for dents, deep scratches, and chipped paint.	
5				Power Cable	
	•			Check that power cable is not frayed or cut.	Power cable is damaged.
6				Rear Panel	
	•			a. Check that line power selector switch is set for correct input voltage.	Switch is not set for correct input voltage.
		•		b. Check that air is being drawn into chassis through air filter when POWER switch is set to ON.	Air is not being drawn into chassis.
	•			c. Check that air filter is clean.	

Section III. OPERATION UNDER USUAL CONDITIONS

2-5. INITIAL ADJUSTMENTS AND DAILY CHECKS.



EL8ZT008

a. Check local power source and set rear panel line power selector switch (19) to either 115 V or 230 V. If using other than 115 V, obtain correct adapter for power cord.

b. Set REPETITION RATE switch (1) and pulse WIDTH switch (5) to minimum to avoid overloading signal generator.

c. Connect power cord to ac power cord receptacle (20) and local power source.

d. Set POWER switch (15) to ON.

e. Check that power indicator (14) lights and listen to make sure fan is running.

2-6. OPERATING PROCEDURES.

a. Output Connections.

(1) Output termination. To ensure clean waveforms with fast transition times ar minimum distortion when the signal generator is connected to loads several feet away -

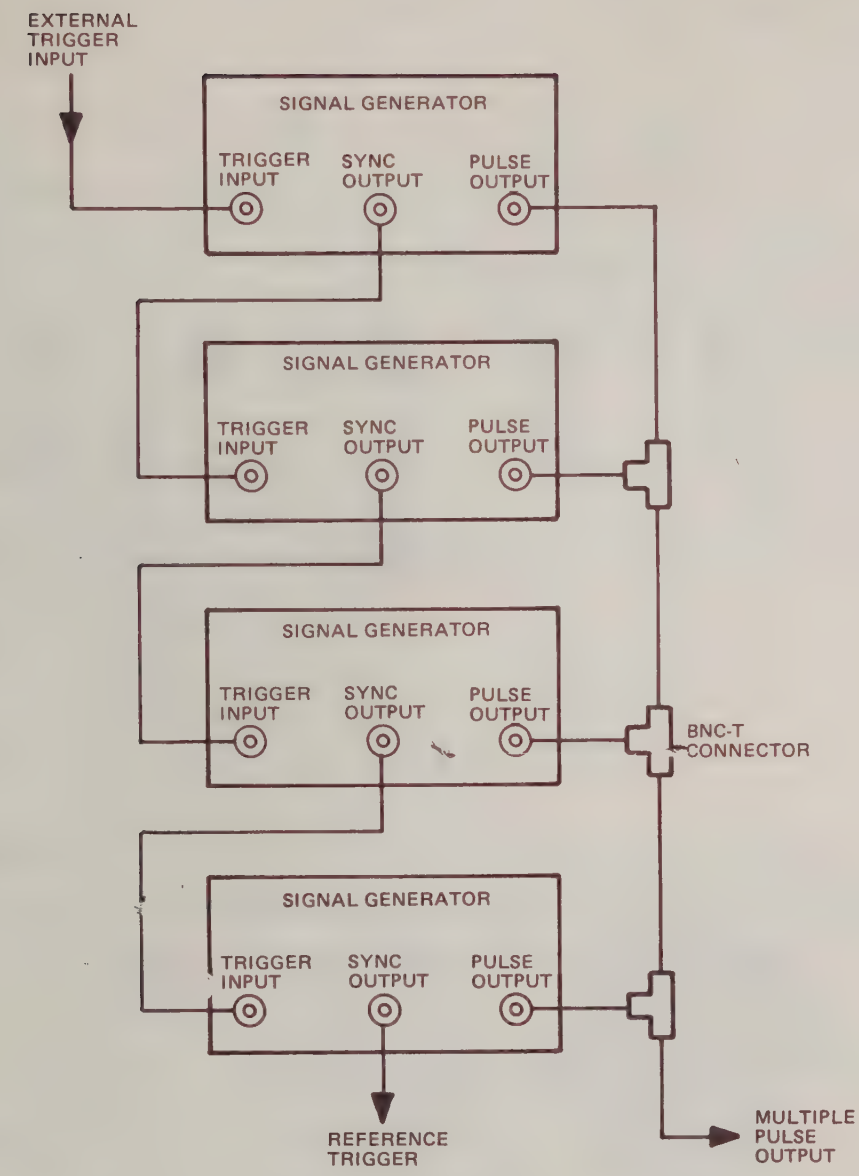
- Use 50-ohm coaxial cabling
- Use nonreactive 50-ohm terminations connected at the load rather than at th signal generator.

(2) Multiple pulse output. Several signal generators may be connected together t simulate a multiple-signal generator. All pulses are selectable in polarity with pulse paramete controlled individually. The group may be driven in parallel (from an external source) or in tande (using the sync output of one signal generator to externally drive the next) as shown in figure 2- Pulse repetition rates well above 1 MHz can be obtained by this method. Good waveform fidelity obtained by using the amplitude controls to attenuate each pulse so that the signal generato attenuators terminate the interconnecting cables with 50 ohms impedance and reduce puls distorting reflections.

b. Basic Operation. Basic operation is the operation of the signal generator to produce outpu pulses using only the signal generator internal circuitry. Four other options are provided:

- Sync output
- External triggering
- Manual triggering
- Gated output.

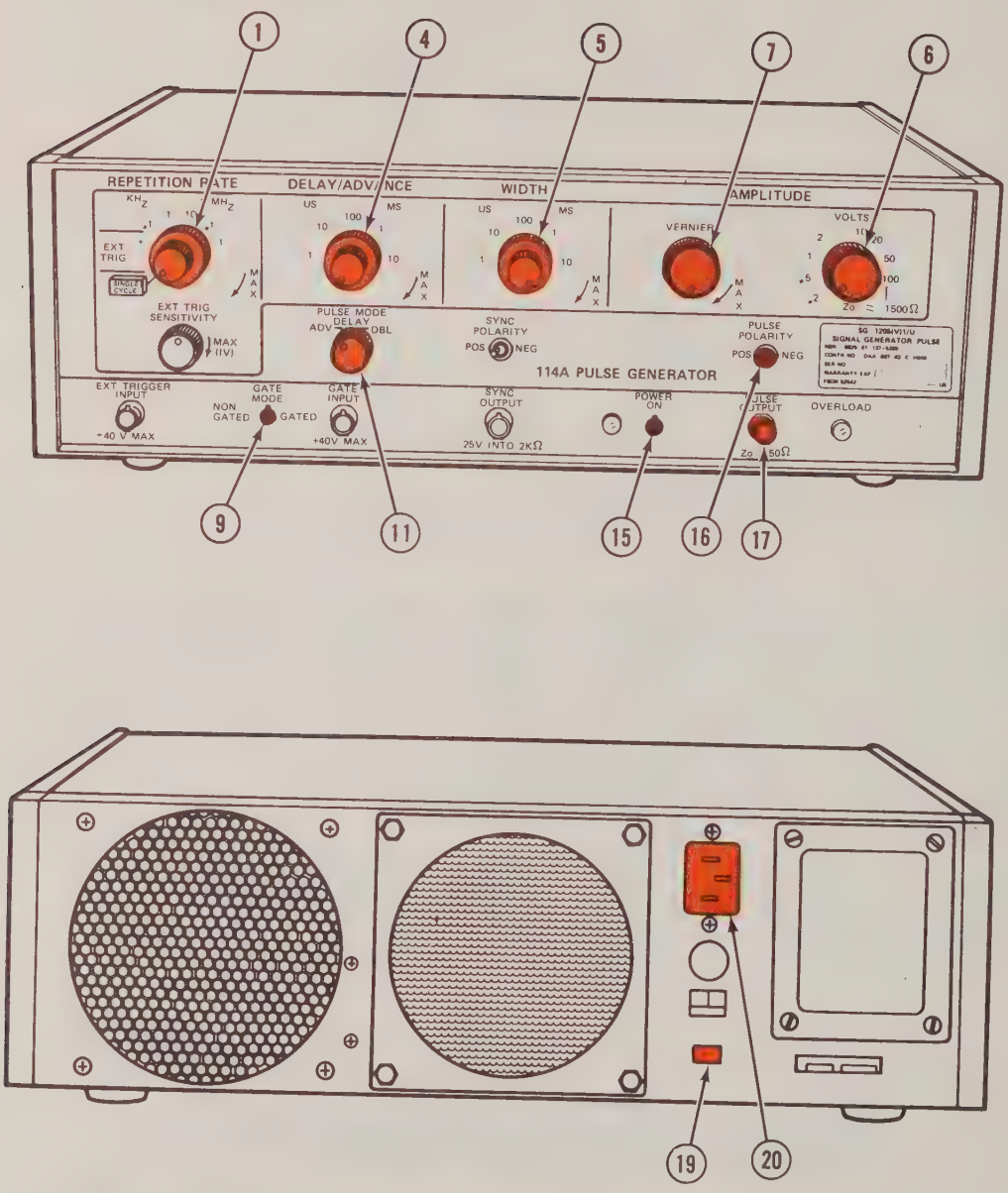
If any of these options are desired, follow the procedures in basic operation and adjust them a described for the option selected.



NOTE:
1. - ALL CABLES ARE 50 OHM COAXIAL CABLES WITH BNC CONNECTORS.
2. -CONNECT BNC-T CONNECTORS DIRECTLY TO OUTPUT JACKS AND MAKE INTERCONNECTING CABLES AS SHORT AS POSSIBLE.

EL8ZT009

Figure 2-3. Multiple Pulse Output Connections



EL8ZT010

CAUTION

Line power selector switch (19) must match input line voltage or equipment will be damaged.

(1) Connect power cord to ac power cord receptacle (20) and local power source.

(2) Connect cable with BNC connector to PULSE OUTPUT connector (17) and load.

(3) Set PULSE MODE control (11) to:

ADV - to allow output pulse to occur ahead of sync pulse

DELAY - to allow output pulse to occur after sync pulse

DBL - to receive a pulse pair during each repetition rate period.

(4) Set DELAY/ADVANCE control (4) to one of five ranges to select separation time of the output and sync pulses or the pulse pair. Adjust vernier control for continuously variable control of the range selected.

(5) Set AMPLITUDE VOLTS control (6) to desired pulse amplitude range. Adjust AMPLITUDE VERNIER control (7) for continuously variable control of the range.

CAUTION

Maximum duty factor (cycle) is 50 percent for amplitudes of up to 20 V and 10 percent for amplitudes from 20 to 100 V. Always decrease the repetition rate before increasing the pulse width and decrease the pulse width before increasing the repetition rate to prevent overload.

(6) Set REPETITION RATE control (1) to one of five ranges to select repetition rate period. Adjust vernier control for continuously variable control of the range selected.

(7) Set WIDTH control (5) to desired pulse width range. Adjust vernier control for continuously variable control of range.

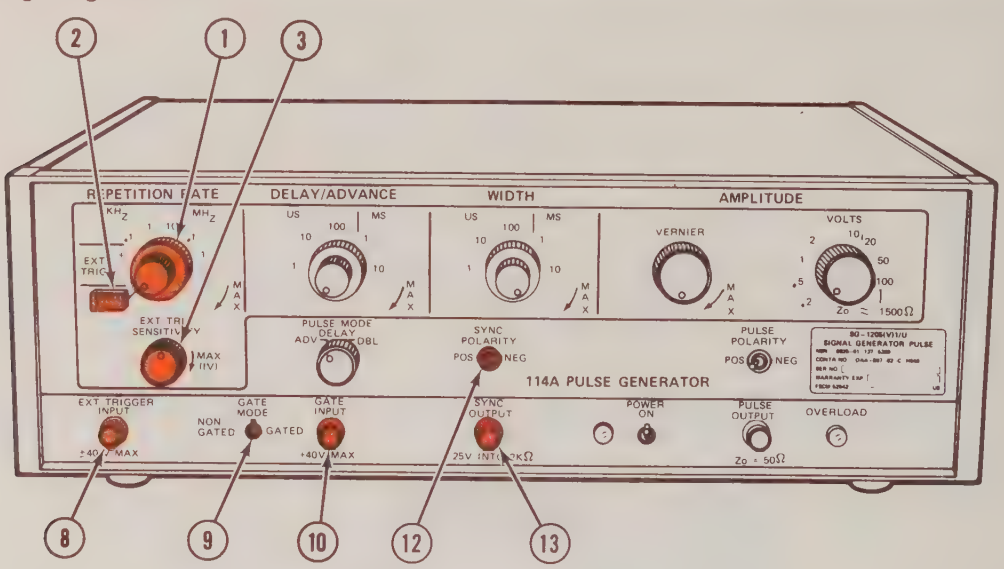
(8) Set PULSE POLARITY switch (16) for a positive (POS) or negative (NEG) output pulse as desired.

(9) Set GATE MODE switch (9) to NON GATED.

(10) Set POWER switch (15) to ON and let signal generator warm up for about 20 minutes.

(11) When operation is complete, set POWER switch (15) to off and disconnect all cables.

c. Sync Output. A sync output pulse is provided to synchronize another piece of equipment with the signal generator.



EL8ZT011

(1) Connect cable with BNC connector to SYNC OUTPUT connector (13) and load.

(2) Set SYNC POLARITY switch (12) for a positive (POS) or negative (NEG) sync pulse as desired.

d. External Triggering. The signal generator's internal trigger circuit can be bypassed to trigger the signal generator from an external source.

(1) Connect cable with a BNC connector to EXT TRIGGER INPUT connector (8) and external trigger source.

(2) Set REPETITION RATE control (1) to EXT TRIG + for positive triggering or - for negative triggering.

(3) Adjust EXT TRIG SENSITIVITY control (3) for desired input trigger level.

e. Manual Triggering. The signal generator's internal trigger circuit can be bypassed to trigger the signal generator manually.

(1) Set REPETITION RATE control (1) to SINGLE CYCLE.

(2) Press SINGLE CYCLE pushbutton (2) each time a trigger pulse is desired.

f. Gated Output. An external gate signal may be applied to gate the output pulse.

(1) Connect cable with BNC connector to GATE INPUT connector (10) and gating signal source.

(2) Set GATE MODE switch (9) to GATED.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

2-7. OPERATION IN EXTREME HEAT.

a. Protect signal generator from direct sunlight.

b. Do not obstruct air flow around signal generator, especially around the rear intake and exhaust vents.

c. Check air filter frequently for dirt and other obstructions that would reduce air intake.

2-8. OPERATION IN DUSTY OR SANDY AREAS.

a. Keep signal generator as clean as possible.

CAUTION

Never operate the signal generator without having the air filter in place.

b. Check air filter frequently for dirt and dust that would reduce air intake.

c. Cover signal generator when not in use.

2-9. OPERATION IN RAINY OR HUMID CONDITIONS.

a. Take special precautions to keep signal generator dry.

b. Check connectors and chassis frequently for rust and corrosion.

CHAPTER 3

ORGANIZATIONAL MAINTENANCE

	Para	Page
Common Tools and Equipment	3-1	3-1
Operational Test	3-11	3-8
PMCS Procedures	3-7	3-3
Preliminary Servicing and Adjustment of Equipment	3-5	3-2
Preparation for Storage or Shipment	3-15	3-13
Repair Parts	3-3	3-1
Replace Air Filter	3-14	3-12
Replace Front Panel Control Knobs	3-13	3-10
Replace Fuse	3-12	3-9
Service Upon Receipt of Material	3-4	3-2
Special Tools, TMDE, and Support Equipment	3-2	3-1
Symptom Index		3-5
Troubleshooting Table	3-10	3-6
Types of Storage	3-16	3-13
Using the Troubleshooting Table	3-9	3-6

Section I. REPAIR PARTS; SPECIAL TOOLS; TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

3-1. COMMON TOOLS AND EQUIPMENT.

Common tools and equipment required for organizational maintenance of Pulse Signal Generator SG-1205(V)1/U are listed in Appendix B (Maintenance Allocation Chart).

3-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.

There are no special tools required for organizational maintenance of the signal generator.

3-3. REPAIR PARTS.

Repair parts are listed and illustrated in the repair parts and special tools list, TM 11-6625-3050-24P, covering organizational and general support maintenance for this equipment.

Section II. SERVICE UPON RECEIPT

3-4. SERVICE UPON RECEIPT OF MATERIAL.

a. *Unpacking.* The signal generator is packed in its own shipping carton. Unpack the equipment as follows:

(1) Open shipping carton and remove equipment.

(2) Place equipment on a suitable clean and dry surface for inspection.

(3) Keep all shipping materials for use in repacking and reshipping.

b. *Checking Unpacked Equipment.*

(1) Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on SF-364, Report of Discrepancy (ROD).

(2) Check the equipment against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions of TM 38-750.

(3) Check to see whether the equipment has been modified.

3-5. PRELIMINARY SERVICING AND ADJUSTMENT OF EQUIPMENT.

a. Remove fuse. See paragraph 3-12. Check that fuse is correct for input line voltage being used. Install fuse. See paragraph 3-12.

b. Set rear panel line power selector switch for input line voltage being used. If input line voltage being used is not 115 or 230 V ac, have general support maintenance reconfigure power transformer.

c. Perform operational test. See paragraph 3-11.

Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

3-6. GENERAL.

Preventive maintenance checks and services (PMCS) are done to find and to fix problems before they can cause major damage to the equipment. These checks and services are done by organizational maintenance personnel at monthly intervals according to the PMCS table. To save time and make sure that all items are checked, do the PMCS in the order given in the table. Write down any problems on the proper forms. Refer to TM 38-750.

3-7. PMCS PROCEDURES.

a. Table 3-1 gives PMCS procedures for the signal generator. The PMCS table is made up of the following columns:

(1) *Item no.* This column gives the order in which the checks and services are to be done. Use these item numbers when filling out the TM Item No. Column on DA Form 2404, Equipment Inspection and Maintenance Worksheet.

(2) *Item to be inspected.* This column names the item to be checked or serviced.

(3) *Procedures.* This column gives the checks and services that need to be done on the item.

b. The PMCS procedures do not say "adjust if necessary" or "replace if necessary." It is understood that whenever inspection shows the need for adjustment, repairs, or replacement, that work will be done.

Table 3-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES
MONTHLY SCHEDULE

NOTE

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shut down.

These checks are to be made in the order listed, at monthly intervals.

Item No.	Item To be Inspected	Procedures
1	Air Filter	 Use isopropyl alcohol in a well ventilated area. Do not breathe fumes for a long period of time. • If signal generator is used in sandy or dusty areas or for extended periods of time, air filter may need cleaning more often to prevent damage to equipment. • Use care when installing air filter. Filter housing can be damaged if capnuts are tightened too tight. Remove air filter by removing four capnuts and filter housing. Clean air filter with compressed air or isopropyl alcohol. Install air filter, filter housing, and four capnuts.

Section IV. TROUBLESHOOTING

SYMPTOM INDEX

Signal Generator Symptom		Page
1.	NO PULSE OUTPUT	3-7
2.	OVERLOAD INDICATOR IS LIT	3-7

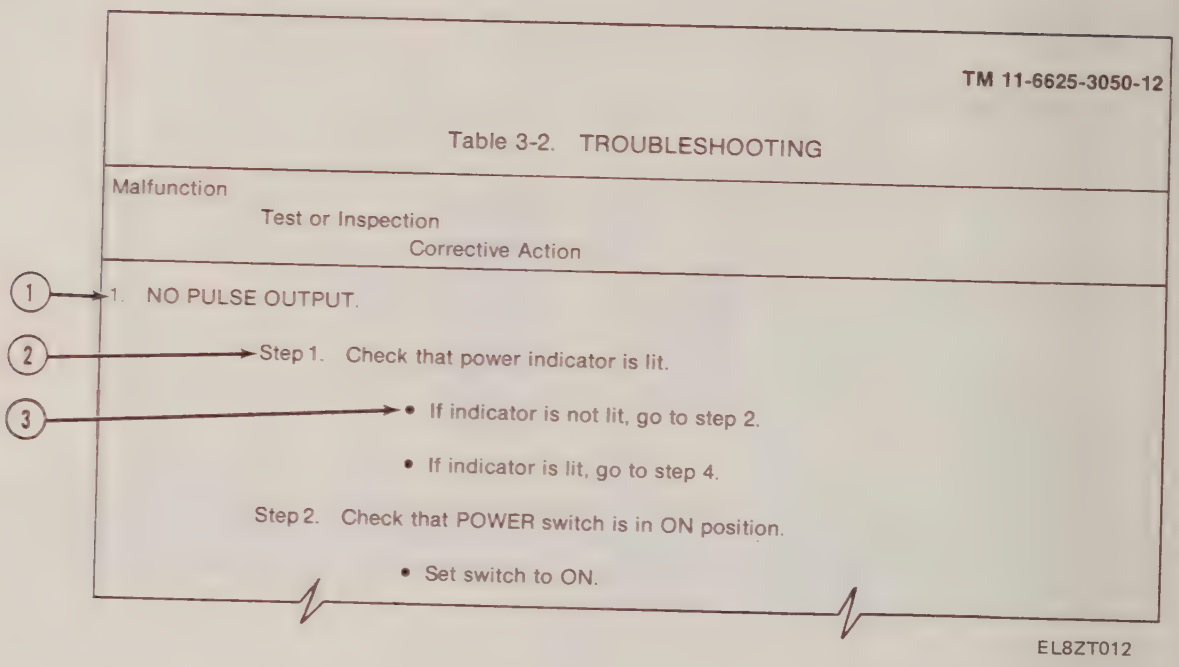
3-8. GENERAL.

Troubleshooting at the organizational maintenance level requires you to locate any trouble as quickly as possible. The amount of troubleshooting you can do is based on what the Maintenance Allocation Chart says you can fix. Because of this, the only trouble symptoms you will find here are those that could be caused by faulty items you can fix.

NOTE

Before using the troubleshooting table, check your work order and talk to the operator, if possible, for a description of symptoms if trouble occurred while equipment was in operation.

3-9. USING THE TROUBLESHOOTING TABLE.


TM 11-6625-3050-12
Table 3-2. TROUBLESHOOTING
Malfunction
Test or Inspection
Corrective Action
1
1. NO PULSE OUTPUT.
2
Step 1. Check that power indicator is lit.
3
• If indicator is not lit, go to step 2.
• If indicator is lit, go to step 4.
Step 2. Check that POWER switch is in ON position.
• Set switch to ON.
EL8ZT012

(1) Malfunctions are those that cause symptoms seen or heard at the equipment without using test equipment.

(2) Tests or Inspections are procedure steps that isolate the damaged part.

(3) Corrective action tells technician what needs to be done to correct the problems.

3-10. TROUBLESHOOTING TABLE.

Table 3-2 lists common malfunctions which may be found during operation or maintenance of the signal generator. You should perform the tests/inspections and corrective actions in the order listed.

NOTE

This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify next higher level of maintenance.

Table 3-2. TROUBLESHOOTING

Malfunction	Test or Inspection	Corrective Action

1. NO PULSE OUTPUT.

Step 1. Check that power indicator is lit.

- If indicator is not lit, go to step 2.
- If indicator is lit, go to step 4.

Step 2. Check that POWER switch is in ON position.

- Set switch to ON.

Step 3. Check that fan is drawing air into signal generator.

Hold hand across filter in center of back panel.

- If air is felt flowing into signal generator, contact next higher level of maintenance.
- If air is not felt flowing into signal generator, set POWER switch to off and replace fuse. See paragraph 3-12.
- If fan does not draw air after fuse is replaced, contact next higher level of maintenance.

Step 4. Check that REPETITION RATE switch is set to KHz or MHz position.

- Set switch to a KHz or MHz position.

Step 5. Check that GATE MODE switch is set to NON GATED position.

- Set switch to NON GATED position.
- If there is still no pulse output, contact next higher level of maintenance.

2. OVERLOAD INDICATOR IS LIT.

Check that duty factor is within limits.

If AMPLITUDE VOLTS switch is set to 20 or less, pulse width must be less than 50% of pulse repetition time.

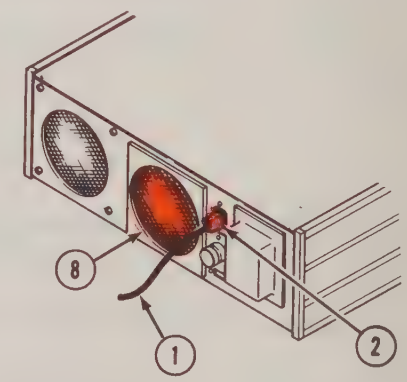
Table 3-2. TROUBLESHOOTING - Continued

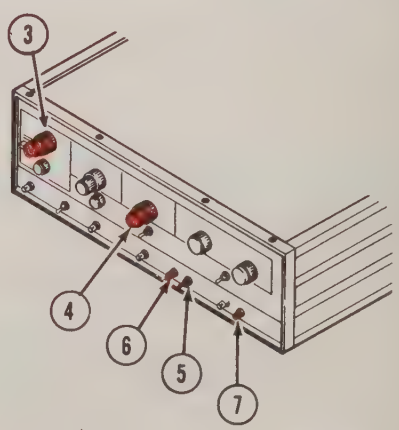
Malfunction	Test or Inspection	Corrective Action
	If AMPLITUDE VOLTS switch is set to more than 20, pulse width must be less than 10% of pulse repetition time.	• Reset AMPLITUDE VOLTS or REPETITION RATE switch to get correct duty factor. • If OVERLOAD indicator is lit with correct duty factor selected, contact next higher level of maintenance.

Section V. MAINTENANCE PROCEDURES

3-11. OPERATIONAL TEST.

1. Plug power cord (1) into rear panel connector (2) and power source.
2. Set REPETITION RATE switch (3) to .1 KHz.
3. Set WIDTH switch (4) to 1 μs.
4. Set POWER switch (5) to ON.
5. Check that power indicator (6) is lit.
6. Check that OVERLOAD indicator (7) is not lit.
7. Check that air is being drawn into chassis through air filter (8).
8. Set POWER switch (5) to off.
9. Unplug power cord (1).





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END OF TEST

-12. REPLACE FUSE.

)ESCRIPTION

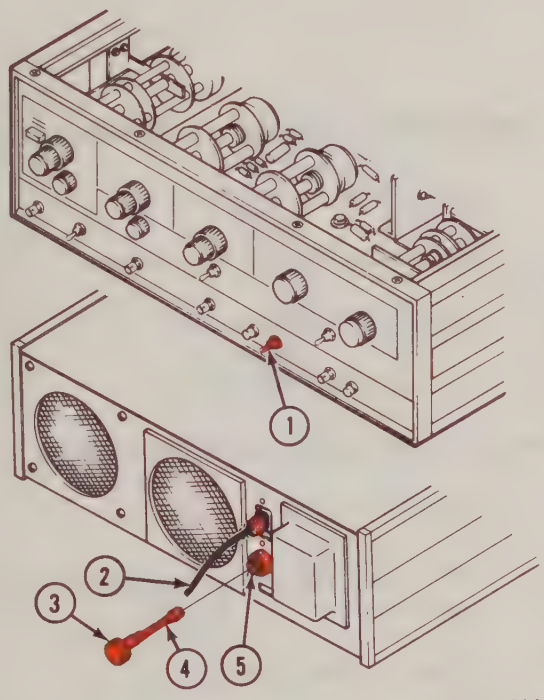
This procedure covers: Remove. Install.

REMOVE

1. Working at front panel, set POWER switch (1) to off.
2. Unplug power cable (2) from power source.
3. Working at rear panel, push in and unscrew fuseholder cap (3) 1/4 turn to left.
4. Pull fuse (4) out of fuseholder cap (3).

INSTALL

1. Working at rear panel, insert fuse (4) into fuseholder cap (3).
2. Push fuseholder cap (3) into socket (5) and turn 1/4 turn to right.
3. Plug power cable (2) into power source.
4. Working at front panel, set POWER switch (1) to ON.



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END OF TASK

3-13. REPLACE FRONT PANEL CONTROL KNOBS.

DESCRIPTION

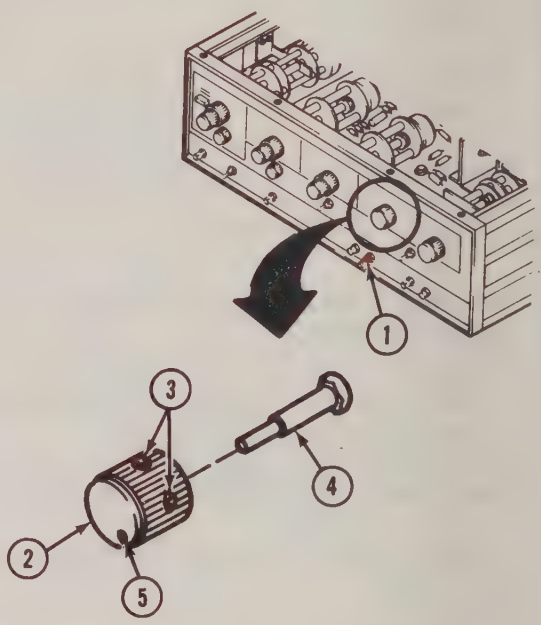
This procedure covers: Switches With One Knob. Remove. Install.
Switches With Two Knobs. Remove. Install.

REMOVE SWITCHES WITH ONE KNOB

1. Set POWER switch (1) to off.
2. Turn knob (2) to far left position.
3. Loosen two setscrews (3).
4. Pull knob (2) off switch (4).

INSTALL SWITCHES WITH ONE KNOB

1. Push knob (2) onto switch (4).
2. Aline mark (5) on knob (2) with far left front panel marking.
3. Tighten two setscrews (3).
4. Rotate knob (2) and check that mark (5) on knob alines with each front panel marking.



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END OF TASK

REMOVE SWITCHES WITH TWO KNOBS

NOTE

If outer knob is to be removed, do steps 1 thru 4. If inner knob or both knobs are to be removed, do steps 1 thru 5.

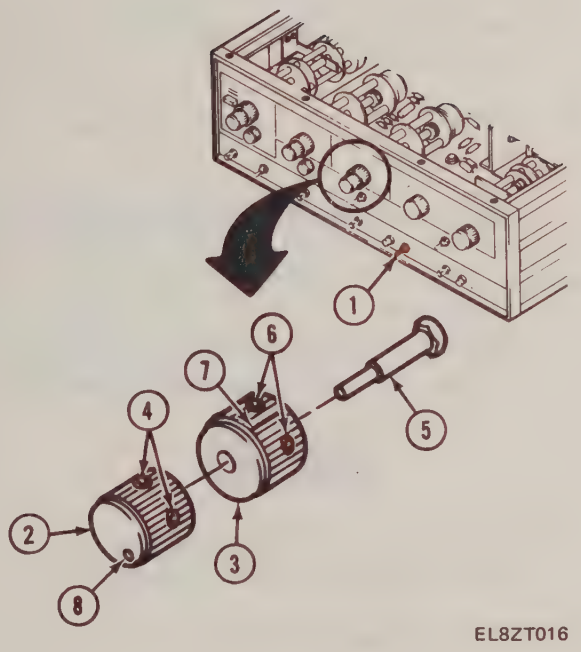
1. Set POWER switch (1) to off.
2. Turn outer knob (2) and inner knob (3) to far left position.
3. Loosen two setscrews (4) in outer knob (2).
4. Pull outer knob (2) off switch (5).
5. Loosen two setscrews (6) on inner knob (3).
6. Pull inner knob (3) off switch (5).

INSTALL SWITCHES WITH TWO KNOBS

NOTE

If inner knob or both knobs are being installed, do steps 1 thru 8. If outer knob is being installed, do steps 5 thru 8.

1. Push inner knob (3) onto switch (5).
2. Aline mark (7) on inner knob (3) with far left front panel marking.
3. Tighten two setscrews (6).
4. Rotate inner knob (3) and check that mark (7) on knob alines with each front panel marking.
5. Push outer knob (2) onto switch (5).
6. Aline mark (8) on outer knob (2) with far left front panel marking.
7. Tighten two setscrews (4).
8. Rotate outer knob (2) and check that mark (8) on knob alines with front panel markings.



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END OF TASK

3-14. REPLACE AIR FILTER.

DESCRIPTION

This procedure covers: Remove. Install.

REMOVE

1. Working at front panel, set POWER switch (1) to off.
2. Working at rear panel, remove four capnuts (2).
3. Pull off filter housing (3) and air filter (4).

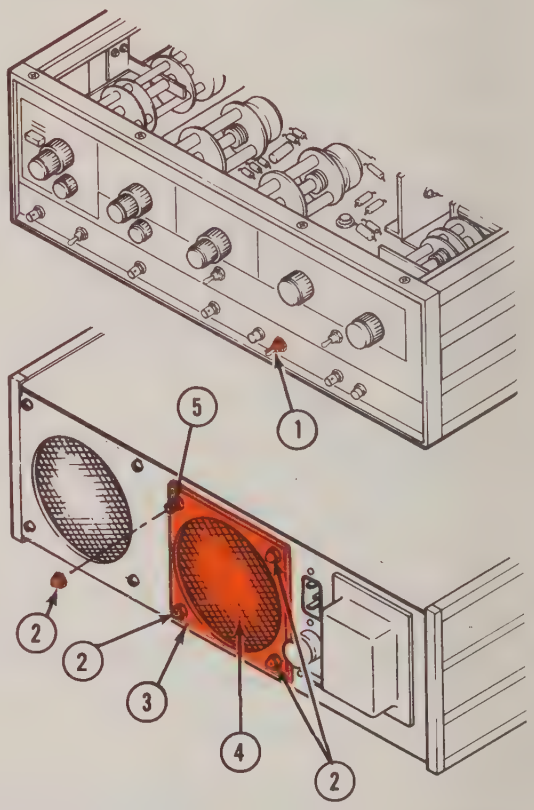
INSTALL

1. Working at rear panel, position air filter (4) and filter housing (3) on four screws (5).

CAUTION

Filter housing (3) can be damaged if capnuts (2) are tightened too tight.

2. Install four capnuts (2).



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END OF TASK

Section VI. PREPARATION FOR STORAGE OR SHIPMENT

3-15. PREPARATION FOR STORAGE OR SHIPMENT.

a. Wrap the signal generator in heavy paper or plastic prior to placing it into the shipping container.

b. Select a strong shipping container or wooden box to contain the signal generator.

c. Use an adequate layer of shock-absorbing material on all sides of the signal generator (3- to 5-inch layer) to provide cushioning and prevent movement inside the container. Protect the front panel with additional layers of cardboard.

d. Seal the package with filament tape; if a wooden box is used, strap with metal bands.

e. Mark the shipping container "FRAGILE-DELICATE INSTRUMENT" to insure proper handling.

3-16. TYPES OF STORAGE.

a. Short-term (administrative) = 1 to 45 days. All equipment in administrative storage must be able to be made ready within 24 hours for use on a mission. Before placing any item in administrative storage, make sure the next scheduled PMCS has been done and any deficiencies have been corrected. The administrative storage site should provide required protection from extreme weather conditions and allow you to reach the equipment for visual inspections or exercises when applicable.

b. Intermediate = 46 to 180 days.

c. Long-term = over 180 days.

APPENDIX A

REFERENCES

A-1. SCOPE.

This appendix lists all forms, technical bulletins, technical manuals, and miscellaneous publications referenced in this manual.

A-2. FORMS.

Recommended Changes to Publications and Blank Forms	DA Form 2028
Recommended Changes to Equipment Technical Manuals	DA Form 2028-2
Hand Receipt	DA Form 2062
Equipment Inspection and Maintenance Worksheet	DA Form 2404
Report of Discrepancy	Form SF 364
Quality Deficiency Report	Form SF 368

A-3. TECHNICAL MANUALS.

The Army Maintenance Management System (TAMMS)	TM 38-750
Administrative Storage Procedures	TM 740-90-1
Procedures for Destruction of Electronics Material to Prevent Enemy Use (Electronics Command)	TM 750-244-2
Pulse Signal Generator SG-1205(V)1/U Repair Parts and Special Tools List	TM 11-6625-3050-24P

A-4. MISCELLANEOUS.

Common Table of Allowances	CTA 50-970
Consolidated Index of Army Publications and Blank Forms	DA Pam 310-1
First Aid for Soldiers	FM 21-11
Abbreviations for Use on Drawings, Specifications, Standards and in Technical Documents	MIL-STD-12
Preservation, Packaging, Packing and Marking Materials, Supplies and Equipment Used by the Army	SB 38-100

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B-1. GENERAL.

This appendix provides a summary of the maintenance operations for Pulse Signal Generator SG-1205(V)1/U. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

B-2. MAINTENANCE FUNCTIONS.

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition; i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

e. Aline. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test, measuring, and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of the equipment or system.

h. Replace. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, aline, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. That maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate

technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipments/components.

B-3. COLUMN ENTRIES.

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2, Component/Assembly. Column 2 contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Function. Column 3 lists the functions to be performed on the item listed in column 2. When items are listed without maintenance functions, it is solely for the purpose of having the group numbers in the MAC and RPSTL coincide.

d. Column 4, Maintenance Category. Column 4 specifies, by the listing of a "worktime" figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance categories, appropriate "worktime" figures will be shown for each category. The number of task-hours specified by the "worktime" figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Subcolumns of column 4 are as follows:

C Operator/Crew

O Organizational

F Direct Support

H General Support

D Depot

e. Column 5, Tools and Equipment. Column 5 specifies by code, those common tool sets (not individual tools) and special tools, test, and support equipment required to perform the designated function.

f. Column 6, Remarks. Column 6 contains an alphabetic code which leads to the remark in Section IV, Remarks, which is pertinent to the item opposite the particular code.

B-4. TOOL AND TEST EQUIPMENT REQUIREMENTS (SECTION III).

a. Tool or Test Equipment Reference Code. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

b. Maintenance Category. The codes in this column indicate the maintenance category allocated the tool or test equipment.

c. Nomenclature. This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

d. National/NATO Stock Number. This column lists the National/NATO stock number of the specific tool or test equipment.

e. Tool Number. This column lists the manufacturer's part number of the tool followed by the Federal Supply Code for manufacturers (5-digit) in parentheses.

B-5. REMARKS (SECTION IV).

a. Reference Code. This code refers to the appropriate item in Section II, Column 6.

b. Remarks. This column provides the required explanatory information necessary to clarify items appearing in Section II.

Section II. MAINTENANCE ALLOCATION CHART FOR PULSE SIGNAL GENERATOR SG-1205(V)1/U

(1) Group Number	(2) Component/ Assembly	(3) Maintenance Function	(4) Maintenance Category C	O	F	H	D	(5) Tools and Equipment	(6) Remarks
00	PULSE SIGNAL GENERATOR SG-1205(V)1/U	Inspect	0.1						
		Inspect		0.3				1	
		Test	0.1						A
		Test				2.0	2.0	2,3,4,5,6,7,8,9,10, 11,12,13,14	B
		Service	0.1						
		Service		0.8				1	
		Aline				3.0	3.0	2,3,4,5,6,8,9,10, 11,12,13,14	
		Repair		0.5				1	C
		Repair				1.5		2,3,6	D
		Repair					3.5	2,3,4,5,6,7,8,9, 10,11,12,13,14	B
01	FRONT PANEL ASSEMBLY	Repair				0.8		2,3,6	E
02	REAR PANEL ASSEMBLY	Remove/Install				1.0		2,3	
		Repair				0.6		2,3,6	F
03	CHASSIS SUBASSEMBLY	Repair				1.0		2,3,6	F
0301	MAIN PCB ASSEMBLY	Repair				1.0		2,3,6	F
04	OUTPUT AMPLIFIER ASSEMBLY	Replace				0.5		2,3	
		Repair				0.8		2,3,6	G
0401	SHIELD ASSEMBLY	Remove/Install				0.3		2,3	
		Repair				0.3		2,3,6	F

Section III. TOOL AND TEST EQUIPMENT REQUIREMENTS FOR PULSE SIGNAL GENERATOR SG-1205(V)1/U

Tool or Test Equipment Ref Code	Maintenance Category	Nomenclature	National/NATO Stock Number	Tool Number
1	O	TOOL KIT, ELECTRONIC EQUIPMENT TK-101/G	5180-00-064-5178	
2	H, D	TOOL KIT, ELECTRONIC EQUIPMENT TK-100/G	5180-00-605-0079	
3	H, D	TOOL KIT, ELECTRONIC EQUIPMENT TK-105/G	5180-00-610-8177	
4	H, D	OSCILLOSCOPE 60 MHz GENERAL PURPOSE PLUG-IN TEK 5440		
5	H, D	AMPLIFIER DUAL TRACE TEK 5A48	4931-01-008-1480	
6	H, D	TIME BASE DELAY TEK 5B42	4931-01-008-1479	
7	H, D	COUNTER, ELECTRONIC HP 5345A	6625-00-531-4752	
8	H, D	VOLTMETER, DIGITAL HP 3490A WITH K25-3490A PROBE		
9	H, D	GENERATOR, PULSE HP 214A	6625-00-682-7452	
10	H, D	VARIAC		
11	H, D	50-OHM/25-WATT LOAD		
12	H, D	50-OHM/5-WATT LOAD		
13	H, D	50-OHM COAXIAL CABLE, 3-FT		
14	H, D	50-OHM 10 X ATTENUATOR 5 WATT		

Section IV. REMARKS

Reference Code	Remarks
A	Operational test.
B	If SG-1205(V)1/U is in storage for more than 6 months, depot is required to conduct full performance test of unit before deployment to field. If unit fails testing, it must be repaired at depot before deployment.
C	Lamps, fuses, and knobs are replaced at the organizational level.
D	Repair is by replacement of the next lower tier components/assemblies/subassemblies.
E	Repair is by replacement of repetition rate switch assembly, delay/advance switch assembly, width switch assembly, amplitude switch assembly, and other front panel assembly piece parts.
F	Repair is by replacement of piece parts.
G	Repair is by replacement of auxiliary drivers pcb assembly, cathode pcb assembly, and other output amplifier assembly piece parts and repair of shield assembly by replacement of piece parts.

APPENDIX E

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I. INTRODUCTION

E-1. SCOPE.

This appendix lists expendable supplies and materials you will need to operate and maintain the signal generator. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

E-2. EXPLANATION OF COLUMNS.

a. - Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material; e.g., "Use cleaning compound, item 5, Appx. E".

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C - Operator/Crew
O - Organizational Maintenance
F - Direct Support Maintenance
H - General Support Maintenance

c. Column (3) - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column (4) - Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. Column (5) - U/M (Unit of Measure). Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation; e.g., ea, in., pr. If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NO.	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	O	6810-00-753-4993	ALCOHOL, ISOPROPYL, 8 OZ CAN, MIL-A-10428, GRADE A (81349)	CN
2	C	8020-00-205-6512	BRUSH, SASH (96906)	EA
3	C	8305-00-267-3015	CLOTH, CHEESECLOTH, COTTON, LINTLESS, CCC-C-440, TYPE II, CLASS 2 (81348)	YD
4	C		DETERGENT, MILD, LIQUID	OZ

GLOSSARY

Section I. ABBREVIATIONS

MTOE ..... Modified Table of Organization and Equipment

PMCS ..... Preventive Maintenance Checks and Services

TMDE ..... Test, Measurement, and Diagnostic Equipment

Section II. DEFINITION OF UNUSUAL TERMS

Aberration — Something that departs from the standard or normal state.

Jitter — Instability of a signal. Used to describe minor variations in a signal reproduced on the screen of a cathode-ray tube.

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RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)
Commander
Stateside Army Depot
ATTN: AMSTA-US
Stateside, N.J. 07703

DATE SENT: 10 July 1975

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 11-5840-340-12	23 Jan 74	Radar Set AN/PRC-76

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PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
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3-10	3-3		3-1
5-6	5-8		
		F03	

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Recommend that the installation antenna alignment procedure be changed throughout to specify a 2° IFF antenna lag rather than 1°.

REASON: Experience has shown that with only a 1° lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2° without degradation of operation.

Item 5, Function column. Change "2 db" to "3db."

REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.

Add new step f.1 to read, "Replace cover plate removed in step e.1, above."

REASON: To replace the cover plate.

Zone C 3. On J1-2, change "+24 VDC to "+5 VDC."

REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.

SAMPLE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER	SIGN HERE
SSG I. M. DeSpiritof 999-1776	SSG I. M. DeSpiritof

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TM 11-6625-3050-12	5 Dec 1983	Pulse Signal Generator SG-1205(V)1/U

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